

### **Remarks**

Claims 1-15 were pending in this application. Claims 1, 6, and 10 have been amended to correct claim informalities. Additional amendment to claim 1 is supported throughout the specification, for example, at page 4, lines 16-25; page 5, lines 3-10; and Examples 1-4. Claim 3 has been amended; support for the amendment to claim 3 may be found throughout the specification, for example at page 4, lines 16-25; page 5, lines 3-10; and Examples 1-4. Claim 16 is new; support for claim 16 may be found throughout the specification, for example, at page 4, lines 16-25; page 5, lines 3-10; and Examples 1-4. Claims 2, 4, 9, and 11-15 have been canceled without prejudice. After entry of this amendment, **Claims 1, 3, 5-8, 10, and 16 are pending.**

No new matter is introduced by the foregoing amendments. Applicants reserve the right to pursue in a related application any subject matter removed by this amendment. Consideration and allowance of the pending claims are requested.

#### *Interview with Examiner Kumar*

Applicants thank Examiner Kumar for having a telephone interview with their undersigned representative on August 21, 2007. During the interview, the use of Applicants' own published application to establish the alleged (inherent) anticipation was discussed. Although no claim amendments were agreed upon, Examiner Kumar agreed to consider Applicants arguments and amendments made herein. It is believed that this response is prepared in accordance with suggestions made by Examiner Kumar.

#### *Claim Objections*

Claims 1, 6, 11, and 15 are objected to because of alleged claim informalities. Claim 1, line 5, has been amended as suggested. Claim 6 has been amended to replace the "a" with "the" after "from" on line 1. Claims 11 and 15 have been canceled. Applicants believe that these amendments render the claim objections moot and respectfully request that they be withdrawn.

*Rejections under 35 U.S.C. §102(b)*

Claims 1-15 stand rejected under 35 U.S.C. §102(b), as allegedly anticipated by Alexandrov *et al.* (EP 1033405, Published June 9, 2000; hereinafter Alexandrov *et al.*) taken together with the evidence of Van Winkle *et al.* (US Patent Publication No. US 2005/0257294 A1; hereinafter Van Winkle *et al.*). Applicants respectfully traverse this rejection for at least the following reasons.

Anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration. *W.L. Gore & Assocs. v. Garlock*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984). Further, “anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim.” *Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984) (citing *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983)).

Presently, the Office has failed to satisfy the criteria for an anticipation rejection as set forth by *W.L. Gore & Assocs. or Lindemann Maschinenfabrik GMBH*, particularly with regard to the claims now pending in the case. Although the Office cites multiple pages within Alexandrov *et al.* to support the pending rejection, nowhere do Alexandrov *et al.* disclose, suggest or teach “a transgenic plant comprising a plant transformation vector comprising a heterologous constitutive promoter ... [that] provides overexpression of a DRO2 transcript in which said transgenic plant has increased drought tolerance as compared to a non-transgenic control plant,” as presently claimed. Further, Alexandrov *et al.* do not disclose each and every element of the claimed invention, particularly not as arranged in the claim. Therefore, the teachings of Alexandrov *et al.* are insufficient to establish anticipation because each and every element of the claimed invention are not revealed or noted in the reference.

The Office alleges that the property of drought tolerance of a transgenic plant expressing a polynucleotide sequence of SEQ ID NO: 33003 is inherent to the sequence disclosed in the reference. Applicants respectfully disagree. The property of drought tolerance is a product of at least the components of the vector construct (including the nucleotide sequence that encodes the DRO2 polypeptide) utilized by Applicants to transform the transgenic plant. As demonstrated in Examples 1 and 4, **overexpression** of DRO2 transcript results in drought tolerant phenotype. Applicants have

additional data demonstrating these effects and would be pleased to submit them upon the Office's request.

The sequence alone is not sufficient to result in a transgenic plant as presently claimed. This conclusion is also supported by the teachings of Harper *et al.* (U.S. Patent No. 7,109,033, as discussed below) in which endogenous expression of a stress-related polynucleotide (*e.g.*, SEQ ID NO: 1986) regulated by its native stress-responsive promoter(s) **did not** result in a drought resistant phenotype (as noted by the Office on page 7 of the Office Action). Therefore, the properties of drought resistance are not inherent to the coding sequence alone.

Alexandrov *et al.* also fail to disclose each and every step of the present method claims 3 and 7. For example, nowhere do Alexandrov *et al.* disclose any **method** of increasing drought tolerance in a plant by use of a nucleotide sequence that encodes a DRO2 polypeptide comprising an amino acid sequence having at least 95% sequence identity to the amino acid sequence of SEQ ID NO: 2. Alexandrov *et al.* also do not teach, suggest or disclose a **method** involving the overexpression of a DRO2 transcript to increase drought resistance in a plant or "identifying said transgenic plant with increased drought tolerance by measuring relative water content of said transgenic plant", as presently claimed in claim 3. Thus, the Office has failed to establish anticipation of the current claims because each and every element of the claimed invention is not disclosed in a single reference (*i.e.*, Alexandrov *et al.*).

Additionally, the Office incorrectly relies upon the present disclosure (Van Winkle *et al.*) to establish anticipation based upon inherency for the disclosed **methods**. As established, a new use of a known substance (*e.g.*, a sequence) is patentable subject matter. Therefore, the Office cannot utilize the present disclosure to establish inherent anticipation for at least the **method** claims. Applicants respectfully request that the Office provide statutory authority to the contrary. Since the use to increase drought resistance in a plant of a nucleotide sequence that encodes a DRO2 polypeptide comprising an amino acid sequence having at least 95% sequence identity to the amino acid sequence of SEQ ID NO: 2 is not disclosed by Alexandrov *et al.*, anticipation has not been established.

In view of the above arguments, and the amendments made herewith, Applicants request withdrawal of the rejections under §102(b).

*Rejections under 35 U.S.C. §102(e)*

The Office also rejects the claims under §102(e) as being (inherently) anticipated by Harper *et al.* (U.S. Patent No. 7109033) taken together with the evidence of Van Winkle *et al.* (U.S. Patent Publication No. US 2004/0009476 A9). For example, the Office alleges that Harper *et al.* “disclose a stress (includes drought) tolerant transgenic plant and a method of making said transgenic plant comprising introducing and expressing a polynucleotide sequence of SEQ ID NO: 1986 which has 100% sequence identity to instant SEQ ID NO: 1 which encodes instant SEQ ID NO: 2.” (Office Action, page 5). Applicants respectfully disagree.

While Applicants agree that Harper *et al.* disclose polynucleotide sequence SEQ ID NO: 1986 which appears to be identical to Applicants’ SEQ ID NO: 1, Harper *et al.* do not teach, suggest, or disclose a drought tolerant transgenic plant or a method of its use as presently claimed, at least for the same reasons as discussed in detail above for Alexandrov *et al.* For example, the property of drought tolerance is a product of at least the components of the vector construct (including the nucleotide sequence that encodes the DRO2 polypeptide) utilized to transform the transgenic plant and not just SEQ ID NO: 1986 alone. As previously stated in the Response submitted on May 28, 2007, transcriptional profiling studies performed by Harper *et al.* indicate that levels of transcripts with a polynucleotide sequence of SEQ ID NO: 1986 were not increased in plants treated mannitol (osmotic stress) alone (Tables 11, 12 and 13). In addition, such transcript levels were not reported to be more abundant in plants given a combination of osmotic stress with other stress conditions including cold and mannitol (Tables 15, 16 and 17), salt and mannitol (Tables 21, 22 and 23) or cold, salt and mannitol (Tables 24, 25 and 26). Thus, the gene with SEQ ID NO: 1986 was not observed to be responsive to drought-like stresses (such as mannitol treatment). Furthermore, transcripts of SEQ ID NO: 1986 were not induced by cold alone (Tables 3, 4 and 5), or salt alone (Tables 7, 8 and 9). Therefore, a transgenic plant with SEQ ID NO: 1986 without a vector construct which causes overexpression of such transcript does not result in a drought tolerant transgenic plant as currently claim.

The Office asserts that Harper *et al.* do not suggest or indicate that transgenic expression of nucleotide sequence encoding SEQ ID NO: 1986 under a (*e.g.*, constitutive) promoter would **not** result in a drought tolerant transgenic plant. It is also alleged that the data presented in Harper *et al.* does not provide evidence **against** the drought tolerant property of the product (SEQ ID NO: 1986). Applicants respectfully but strenuously disagree. Anticipation cannot be established on mere possibilities or probabilities. Each and every element of the claim must be disclosed in a single reference. As such, the fact that a reference does not teach or suggest that something would not result in a particular invention can not be used to establish anticipation. Moreover, the data presented by Harper *et al.* demonstrate that the property of drought tolerance is not observed in the absence of a vector construct including at least the nucleotide sequence as well as a promoter that causes overexpression of the DRO2 transcript (*i.e.*, the studies by Harper *et al.* which included the nucleotide sequence with a native stress promoter did not result in the phenotype being observed). As such, the Office has failed to establish anticipation based upon inherency for the transgenic plant as presently claimed (claims 1 and 16).

Harper *et al.* also fail to disclose each and every step of the presently claimed methods, *e.g.* claims 3 and 7. For example, nowhere do Harper *et al.* disclose any **method of increasing drought tolerance** in a plant by use of a nucleotide sequence that encodes a DRO2 polypeptide comprising an amino acid sequence having at least 95% sequence identity to the amino acid sequence of SEQ ID NO: 2. Harper *et al.* also do not teach, suggest or disclose a method involving the overexpression of a DRO2 transcript to increase drought resistance in a plant, or “identifying said transgenic plant with increased drought tolerance by measuring relative water content of said transgenic plant” as presently required in claim 3. Thus, the Office has failed to establish anticipation for the present method claims 3 and 7 (and those that depend therefrom) because each and every element of the claimed invention is not disclosed in a single reference (*i.e.*, Harper *et al.*).

Anticipation (including inherent anticipation) of the current claims has not been established. As such, Applicants respectfully request that the rejections under 35 U.S.C. §102(e) be withdrawn with regard to the claims currently pending in this case.

**Conclusion**

Applicants respectfully submit that the claims submitted herewith are in condition for allowance. If any issues impede the issuance of a notice of allowance, Applicants expressly request that the Examiner contact the undersigned prior to the mailing of a next substantive Office action in order to arrange a telephone interview. It is believed that a brief discussion of the merits of the present application may expedite prosecution and allowance of the claims.

Respectfully submitted,

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